Claims

I claim:

1. A method for determining a compactness ratio of a plurality of data sets, comprising:

measuring a combined compactness value for a union of the plurality of data sets;

measuring an individual compactness value for each one of the plurality of data sets; and

dividing the combined compactness value by a sum of the individual compactness values to determine the compactness ratio of the plurality of data sets.

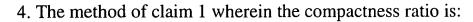2. The method of claim 1 further comprising:

measuring an area of a particular data set;

measuring a border of the particular data set; and

dividing the area by the border squared to determine a particular compactness value of the particular data set.

3. The method of claim 1 further comprising:

measuring an area of a particular data set;

measuring a maximum chord of the particular data set; and

dividing the area by the border maximum chord to determine a particular compactness value of the particular data set.

4. The method of claim 1 wherein the compactness ratio is:

$$CR_{f_1 \cdots f_M} = M \frac{C_{(f_1 \cup \ldots \cup f_M)}}{C_{f_1} + \ldots + C_{f_M}}$$

where M is the total number of data sets, and N is a dimensionality of the data sets.

5. The method of claim 1 wherein the data sets are composed of pixels in a sequence of video frames.

6. The method of claim 1 further comprising:

determining a plurality of compactness ratios, one compactness ratio for each possible pair of data sets; and

combining the pair of data sets having a maximum compactness ratio.